



**CABY Integrated Regional Water Management Group
2014 IRWM Drought Grant Solicitation**

Attachment 5: Budget Summary

Attached are Budget Summaries for the following projects:

- City of Placerville Waterline Replacement – Chamberlain/Sacramento Street Area
- El Dorado County Regional Water Conservation Planning - Model Implementation and Education Programs
- Georgetown Divide PUD Water Conservation, Supply Reliability and Environmental Protection Project
- Greeley Canal Drought Measures Optimization
- Grizzly Flat Drought Measures Infrastructure Project
- Rock Creek Water Contingency Intertie
- Administration

BUDGET SUMMARY: City of Placerville Waterline Replacement – Chamberlain/Sacramento Street Area**Category a) Direct Project Administration: Total Cost \$65,538.00**

Task 1,2,3 and 4: Administration is considered a non-construction activity and includes construction management and oversight. Hours for all project tasks including administration were based on City staff knowledge of previous work on similar projects. All work will be overseen by the City Engineer and/or Finance Manager. A Grant Manager will be assigned to administer the contract documents and to provide adequate inspection services to assure adherence to the construction documents and to monitor schedule and progress payments. The Grant Manager will report to the Grant Funding Manager on the progress of the project and on the payment requests. Grant Manager will ensure Labor Compliance for all projects. All costs are based on current approved City rate structure and takes into account anticipated increased rates for 2015 and 2016. Total staff costs are anticipated to be \$45,212. Total cost for this task also includes \$20,326 CABY IRWM Data Management Tasks equaling 2% of project total costs.

Category b) Land Purchase/Easement: Total Cost \$50,000

Task 5 Hours and costs were assessed by the City Engineer and include Right-of-Way documentation costs include staff time, and application preparation, submittal and filing fees and are covered by matching funds from El Dorado County Water Agency.

Category c) Planning/Design/Engineering/Environmental Documentation: Total Cost \$100,000

Tasks 6, 7, 8 and 9 The City contracted with Psomas Engineering through a grant from the El Dorado County Water Agency to complete 95% engineering plans and specifications for the Project including waterlines CC and E. The City will complete the remaining 5% for 100% engineering plans and specifications to move forward with project construction. The City will contract with an Engineering firm to complete 95% engineering plans and specifications for the remaining Project which will include surveying and marking the exact location of the existing 8 inch cross country line North of Sacramento Street and design of waterline F. These costs were attained from Domenichelli & Associates, a local engineering firm who developed initial plans and costs for phase II. The costs are covered by matching funds from El Dorado County Water Agency.

Category d) Construction/Implementation: Total Cost \$787,528

Task 10,11,12 and 13: Project construction costs for Phase II of the City's Project are based on Engineers opinion of probable costs. Total construction costs include general requirements such as mobilization/demobilization, construction staking, permits, As-builts, Storm Water Pollution Prevention compliance and traffic control. Site work breakdown includes pavement demolition, trenching, paving, site restoration and pipe abandonment for both Lines CC and E. There will be concrete work in the form of thrust blocks for both Lines CC and E. Mechanical work for Line CC includes the placement of 600 feet of 12 inch PVC pipe, gate valves, existing meter connections, pressure tests, disinfections and a 4 inch connection and valve. Mechanical work for Line E includes the placement of 700 feet of 12 inch PVC pipe, gate valves, fire hydrant assemblies, existing meter connections, pressure tests, disinfections and tests. Additionally there is 18% for contractor's overhead and profit (OH&P), 10% for management and a 15% contingency.

Construction Element Description	Estimated Amount (Subtotal)
General Requirements	\$69,000
Site Work	\$146,932
Concrete	\$4,500
Mechanical	\$313,485
<i>Net Construction</i>	<i>\$533,917</i>
Contractors OH&P (18%)	\$96,105
<i>Subtotal</i>	<i>\$630,022</i>
Engineering/Construction Management (10%)	\$63,002
Construction Contingency (15%)	\$94,503
<i>Total Construction Costs</i>	<i>\$787,528</i>

BUDGET SUMMARY: El Dorado Cty Regional Water Conservation Planning – Model Implementation and Education Programs**Category a) Direct Project Administration: Total Cost \$91,471**

Task 1, 2, 3 and 4: Administration is considered a non-construction activity and includes project management, construction management and oversight. Project administration activities will be performed by the El Dorado County Water Agency (EDCWA) administrative manager and administrative team. This admin budget includes an amount for CABY IRWM data management tasks, which is 3% of the requested grant amount or \$53,632. *Govt Center Retrofits* element total admin costs are estimated to be \$94,881, which is 5% of construction activities. This accounts for a Sr. Project Manager and a Project Manager doing 40% and 60% respectively of admin tasks. Admin costs includes all Labor Compliance activities and are based on current approved county rate structure of \$100/hr for a SR. Pm and \$ 90/hr for the PM. Admin costs for the *County-Wide Plan* are estimated at \$5,440. Admin costs for the *Great Water Mystery* are estimated to be \$13,510. All staff costs are based on current approved City and SYRCL rate structure and takes into account anticipated increased rates for 2015 and 2016.

Category b) Land Purchase/Easement: N/A**Category c) Planning/Design/Engineering/Environmental Documentation: Total Cost \$291,970**

Task 6, 7, 8 and 9: The detailed project budget is broken up into sections by building. Budget amounts are based on engineer's estimates as well as knowledge from previous projects. Cost for planning, design, and engineering at the Government Center are anticipated to be \$223,250, which is based on formal cost estimates submitted by Sacramento area contractors, engineers and architects at the request of by El Dorado County's Sr. PM assigned to this project. *County-Wide Plan* costs were estimated by consulting firm, Atkins North America, based on a time and materials fee structure using EDCWA's current negotiated fee schedule. Costs associated with this element are expected to be \$65,720. *Great Water Mystery* planning costs are limited, due to existing program status and are assessed at \$3,000.

Category d) Construction/Implementation: Total Cost \$1,964,874

Tasks 10, 11, 12 13: Govt Center Retrofits: As stated above, the detailed project budget is broken up into sections by each building's construction. Costs are based on formal cost estimates submitted by numerous Sacramento area contractors, engineers and architects at the request of by El Dorado County's Sr. PM assigned to this project. Costs include mobilization, demobilization, construction contracting, performance testing and administration.

Construction Element Description El Dorado Government Center	Estimated Amount (Subtotal)
A - Construction/Implementation	
1) Demolition (20%)	\$322,596
2) Tenant Improvements Retrofits (30%)	\$483,894
3) HVAC VRF Replacement (40%)	\$645,192
4) Demobilization-Site Cleaning (10%)	\$161,298
<i>Subtotal</i>	<i>\$1,612,980</i>
Construction Contingency (15%)	\$284,643
<i>Total Project Construction Implementation Cost</i>	<i>\$1,897,624</i>

Great Water Mystery: SYRCL will produce 120 presentations of either a *Great Water Mystery Assembly* or a *School Water Audit* at a price of \$400 per program implementation. SYRCL's total implementation costs (including a match for additional assemblies in the CABY region) for its *Great Water Mystery Assembly* or a *School Water Audit* are **\$67,250**.

Implementation Element Description SYRCL Great Water Mystery/School Audit Program	Estimated Amount (Subtotal)
1) SYRCL Great Water Mystery/School Audit Program	\$67,250
<i>Total Project Implementation Cost</i>	<i>\$67,250</i>

BUDGET SUMMARY: Georgetown Divide PUD Water Conservation, Supply Reliability and Environmental Protection**Category a) Direct Project Administration: Total Cost \$72,719**

Administration is considered a non-construction activity and includes construction management and oversight. Hours for the entire project are based on experience of other similar project and include the following: All work will be overseen by the City Engineer and/or Finance Manager. Construction Manager will be assigned to administer the contract documents and to provide adequate inspection services to assure adherence to the construction documents and to monitor schedule and progress payments. The Grant Manager will report to the Grant Funding Manager/Director of Finance on the progress of the project and on the payment requests. Grant Manager and Construction Manager will monitor Labor Compliance.

All staff costs are based on current approved City rate structure and takes into account anticipated increased rates for 2015 and 2016. Total staff costs are anticipated to be \$50,212. Total cost for this task also includes CABY Data Management Tasks \$22,507 equaling 2% of project total costs.

Category b) Land Purchase/Easement: N/A**Category c) Planning/Design/Engineering/Environmental Documentation: Total Cost 133,000**

Tasks 6, 7, 8 and 9: Consultation with professional Surveyor and Geotechnical firms has determined the surveying and geotechnical support, effort and costs required for the design engineers to proceed with planning. The Design Engineers will create the overall design plans showing project reaches, lengths, typical sections, staging areas and any related construction details. The cost breakdown shown in Table 1 is based on these assumptions and initial consultation.

Based upon an initial understanding of the project and a proposal from environmental consultants, it is believed that a Categorical Exemption would be appropriate to meet the California Environmental Quality Act (CEQA) requirements for this Project and would require a startup meeting with a site visit, preferably with the District representative, project engineer, and/or project biologist(s) and biological field work for wetland work, and cultural resources field work including Native American consultations and archival research.

Category d) Construction/Implementation: Total Cost \$942,140

Task 10, 11, 12 and 13: Project construction costs for the District's Canal Lining Project are based on the list of reaches and project components described under the Technical Project Section of this application. The table below provides a summary of the estimated project costs, including both construction and non-construction activities. Due to the widespread area covering the project reaches and the fact that the project is located relatively far from any existing concrete plants, the canal lining will include a local batch plant provided by the contractor. The costs also assume that no new right-of-way other than temporary rights of entry will be required as all reaches are near existing roadways and the concrete pumping equipment can reach out several hundred feet.

Table 1: Estimated Construction/Engineering/Environmental Costs

Construction Element Description			
Item	Feet	\$/ft	Amount
Mobilization/Demobilization			50,000
Clearing & Grading	12,380	3	37,140
Channel Lining	12,380	65	769,000
Subtotal Construction			856,140
Construction Contingency (10%)			86,000
		Total Construction Costs	942,140
Engineering/Survey/Geotech.			48,000
Environmental			50,000
Administration			35,000
		Total Project	1,075,140

BUDGET SUMMARY: Greeley Canal System Optimization**Category a) Direct Project Administration: Total Cost \$49,000**

All costs and hours estimated for all tasks in this project were estimated based on similar projects recently constructed by Placer County Water Agency.

Task 1,2,3 and 4: Administration is considered a non-construction activity and includes construction management and oversight. A Construction Manager will be assigned to administer the contract documents and to oversee inspection services to assure adherence to the construction documents and to monitor schedule and progress payments. The Grant Manager will report to the Grant Funding Manager on the progress of the project and on the payment requests. Administration costs are based on estimated Agency staff hours anticipated for project oversight using the current approved Agency rate structure and takes into account anticipated increased rates for 2015 and 2016. Administration costs also take into account an amount for CABY IRWM data management tasks.

Category b) Land Purchase/Easement: Total Cost \$10,000

Task 5 Hours and costs were assessed by the Engineering Services Manager and include Right-of-Way documentation costs including staff time, and application preparation, submittal and filing fees.

Category c) Planning/Design/Engineering/Environmental Documentation: Total Cost \$25,000

Tasks 6, 7, 8 and 9: The Agency contracted with John Calton Engineering to assist with the design of their raw water canal control system. Preliminary specs and drawings were provided for the project to a 20% completion level. Agency staff and a consultant engineering firm will complete the remaining 80% design effort on the plans and specifications. Environmental documentation will be performed by Agency staff. Cost allotted is based on past experience of similar work on past Agency projects.

Category d) Construction/Implementation: Total Cost \$230,000

Task 10,11,12 and 13: Project construction costs for the Greeley Canal Optimization project are based on Engineer's opinion of probable costs. Total construction costs include Mobilization-Demobilization consisting of move in costs, bonds, insurance, submittal review and processing and environmental compliance. The Upper Greeley Flumegate System consists of the Flumegate assembly and canal modifications necessary to install it. The Lower Greeley Pressure Sustaining Station consists of the electrically operated v-notch ball valve, magnetic flow meter, pressure transducer and appurtenant piping and enclosures. Electrical, Instrumentation and Communications include utility coordination, equipment and materials for power and communication to the sites, control panels to locally control and monitor the facilities and communications panels to communicate local information to SCADA. SCADA Integration is the materials and programming and modifications necessary to incorporate the new remote sites into the SCADA System. Operational Testing includes all work necessary to demonstrate that all aspects of the project are performing to the contract requirements and are consistent with the project monitoring plan. Costs include all labor materials and equipment necessary to complete the items. A 15% contingency is also included in the estimated amounts.

Construction Element Description	Estimated Amount (Subtotal)
Mobilization - Demobilization	\$ 10,000.00
Upper Greeley Flumegate System	\$ 55,000.00
Lower Greeley Pressure Sustaining - Flow Monitoring Station	\$ 35,000.00
Electrical, Instrumentation, and Communications (both sites)	\$ 85,000.00
SCADA Integration	\$ 40,000.00
Operational Testing	\$ 5,000.00
Total	\$ 230,000.00

BUDGET SUMMARY: Grizzly Flats Drought Measures Infrastructure Project**Category a) Direct Project Administration: Total Cost \$36,445**

Tasks 1,2,3 and 4: Administration is considered a non-construction activity and includes construction management and oversight. All work will be carried out and overseen by Grizzly Flats CFSCD (GFSCD) Administrative Manager and Office Facilitator. All staff costs are based on current approved GFSCD rate structure and takes into account anticipated increased rates for later years of the project. Hours were based on scope of work prepared by Atkins North America and previous grant applications. Total staff costs are anticipated to be \$22,114. Total cost for this task also includes an amount of \$14,331 for CABY Data Management Tasks equaling 3% of project total costs.

Category b) Land Purchase/Easement: N/A**Category c) Planning/Design/Engineering/Environmental Documentation: Total Cost \$127,208**

Task 6, 7 and 8: Much of the initial planning for this project has occurred. We estimate 60% design completion. GFSCD used an industry accepted 10% for Infrastructure Component construction value for cost of planning/design activities. Costs are assessed to be \$25,118. 6.2 and 6.3 GFSCD based planning and costs for the Leak Detection and Residential Conservation Program on a scope of work and estimate from Atkins North America based on GFSCD current approved GFSCD rate structure and vendor estimates. Costs are estimated to be \$86,230.

Category d) Construction/Implementation: Total Cost \$344,248

Tasks 10,11,112 and 13: The budget for this task includes all construction and implementation activities related to the project as well as all performance testing and mobilization. This includes mobilization, project construction/implementation, performance testing, environmental compliance, and construction administration. Infrastructure materials costs were researched by GFSCD staff in 2014 as follows.

11.2.1 Installation of the ARVs is expected to cost a total of \$5,700, which is based on an estimated \$4,500 for materials including 30 ARVs at \$125 each and 30 valve boxes at \$14.52 each plus small items and \$1200 for labor.

11.2.2 Backwash Tank installation will cost \$71,250 estimated on July 2014 price quotes and installation labor.

11.2.3. The cost to install Cathodic Protection in four tanks is \$47,800, with GFSCD only expecting to spend \$200 on this project in personnel time for a total of \$48,000.

11.2.4. For the Meter Replacement project, GFSCD will purchase 300 new Sensus meters at a total cost of \$23,459 (~ \$80/meter) with an additional \$5,042 in staff time for installation for a total of \$28,501.

11.2.5. Costs to purchase, install and implement the SCADA system are expected to be \$45,500, with an additional \$2000 in personnel costs, for a total of \$47,500. 11.2.6 For the Residential Water Conservation Program, GFSCD contacted with Atkins North America, Inc to prepare a scope of work and cost estimate to implement its Residential Water Conservation Program. Costs were estimated by a professional with direct experience in development of cost estimates for water conservation programs.

11.2. 6 and 7. Cost estimates were based on a time and materials fee structure using Atkins and GFSCD's current fee schedules and vendor estimates. Costs associated with these tasks are expected to be **\$93,070**.

Table 1: Estimated Construction/Engineering/Environmental Costs

Construction Element Description	Time and Material
Install ARVs	\$5,700
Replace Backwash Tanks	\$71,250
Install Cathodic Protection	\$48,000
Replace Water Meters	\$28,501
Install SCADA System	\$47,500
Infrastructure Component Total	\$200,951
25% Construction Contingency	\$50,237
Subtotal	\$251,188
Leak Detection Program	\$46,990
Residential Water Conservation Program	\$46,080
Total Project Construction Costs	\$344,2584

BUDGET SUMMARY: Rock Creek Water Contingency Intertie**Category a) Direct Project Administration: Total Cost \$91,471**

All staff hours and costs in this project are based on knowledge of similar projects carried out by Nevada irrigation District. Tasks, 1,2,3 and 4. Administration is considered a non-construction activity and includes project management (design & environmental), grant reporting and management, and construction management and oversight. An NID engineer will administer the construction contract documents and to provide necessary inspection services to assure adherence to the construction documents and to monitor schedule and progress payments. The Grant Manager will report to the Grant Funding Manager on the progress of the project and on the payment requests. Administration costs are based on estimated NID staff hours anticipated for project oversight using the current NID rate structure and takes into account anticipated increased rates for 2015. Total staff costs are anticipated to be \$25,211. Total cost for this task also includes CABY IRWM Data Management Tasks \$66,260 equaling 3% of project total costs.

Category b) Land Purchase/Easement: Total Cost \$25,000

Task 5 Hours and costs were estimated by the NID Project Engineer and include typical Right-of-Way documentation costs including staff time, application preparation, easement purchase costs, and submittal and filing fees.

Category c) Planning/Design/Engineering/Environmental Documentation: Total Cost \$130,000

Tasks 6, 7, 8 and 9 NID has completed both the preliminary design and the environmental CEQA study. Costs to date since 2011 inception are \$92,200 and include the environmental work done by Stantec Consultants for the CEQA document. The remaining 70% final design will be completed by the NID at an estimated cost of approximately \$27,800 and an additional \$10,000 will include the necessary permitting fees and pre-construction and construction environmental surveys by the consultant.

Category d) Construction/Implementation: Total Cost \$1,962,200

Tasks 10,11,12 and 13: Project construction costs are based on previous contractor quotes received by the NID on similar pipe sizes. A cost-per-foot for a 36-inch diameter of pipe was multiplied by the total length of the project (3,750 feet). Due to the typical subsurface conditions, rock is expected to be encountered during the excavation; an estimate of 1,390 cubic yards at a cost of \$100 per cubic yard based on previous projects completed. Total construction costs include general requirements such as mobilization/demobilization, construction staking, permits, as-builts, Storm Water Pollution Prevention compliance and traffic control (1.5%). Site work breakdown includes pavement sawcutting and demolition, trenching, paving, site restoration and inlet and outlet construction. Concrete work will include the inlet and outlet structure related to the pipe and thrust blocks at angle points in the pipeline. Mechanical work includes the placement of 3,750 feet of 36 inch PVC or Ductile Iron pipe and pressure testing. A 1.5% factor was added for contractor mobilization and demobilization and a 10% construction contingency included.

Construction Element Description	Estimated Amount
Pipe Trenching & Installation	\$1,350,000
Rock Excavation	\$347,500
Inlet and Outlet Construction	\$60,000
<i>Net Construction</i>	<i>\$1,757,500</i>
General Requirements (1.5%)	\$26,363
<i>Subtotal</i>	<i>\$1,783,863</i>
Construction Contingency (10%)	\$178,386
<i>Total Project Cost</i>	<i>\$1,962,249</i>

BUDGET SUMMARY: Project Administration
Category a) Direct Project Administration: Total Cost \$560,948
All costs and hours estimated for all tasks in this project were estimated based recent experience with similar projects and based on current approved Nevada Irrigation District rate structure and takes into account anticipated increased rates for future years. Staff will include the NID Finance Manager, Assistant General Manager and administrative support staff.